Palmetto AVIATION

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Thousands jam the flight line at Shaw AFB, Sunday, Nov. 2 to watch the Navy's Blue Angels perform their dazzling aerial aerobatics. Shaw AFB officials estimated more than 100,000 people visited the base during the two-day open house to see the Angels, other aerial demonstrations and many static aircraft on display, including the world's largest, the C-5A Galaxy. (Aeronautics Commission photo).

Funds okayed for airport improvements

The S.C. Aeronautics Commission approved funds for six airport improvement projects last month and gave a seventh tentative approval contigent on release of federal funds for the project.

The projects, approved at the Commission's November meeting, total more than $169,000 and involve general aviation airports around the state. Most involve runway and taxiway resurfacing, security fencing and obstruction clearing.

Those approved were:

- Camden Airport, $24,969 for partial runway overlay, partial apron overlay and security fencing.
- Greenville-Spartanburg Jetport, $10,000 for security fencing.
- Beaufort County Airport, $48,000 for completion of runway and taxiway paving and lighting system.
- Cheraw Municipal Airport, $3,225 for obstruction clearing.
- Spartanburg Downtown Airport, $10,300 for erosion control and $39,768 for a five-year-old project that was held up due to easement requirements. The project involved resurfacing of runway 4/22 and installation of runway lighting system.

The Commission tentatively approved $33,100 for overlay and grooving of runway 9/27 at Florence City County Airport, contigent on approval of federal funds for the project.

Projects at Camden, Beaufort, Florence and Spartanburg are funded with federal Airport Development Aid Program (ADAP) grants as well as with state and local monies. The state share reported above represents about 10 percent of the total project cost.

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PALMETTO AVIATION is an official publication of the South Carolina Aeronautics Commission. It is designed to inform members of the aviation community, and others interested in aviation, of local developments in aviation and aviation facilities and to keep readers abreast of national and international trends in aviation.

The Aeronautics Commission is a state agency created in 1935 by the S.C. General Assembly to foster and promote air commerce within the state.

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IFR Flight Training may be tax deductible

BY W. EDWARD HOWARD JR.

A recent decision of the United States Tax Court should give business pilots a greater certainty of obtaining deductions for flight time spent in gaining an instrument rating.

In **Kenneth L. Knutson,** a 1980 case, the Tax Court held that Mr. Knutson, who used his Beechcraft Bonanza in his automobile parts business, as well as for pleasure flying, could deduct depreciation and other expenses on the aircraft, including time used in obtaining his instrument rating, as an "ordinary and necessary" expense of doing business.

The IRS apportioned all expenses, depreciation, and the investment tax credit on a pro rata basis between personal and business use, and contended that Mr. Knutson's instrument training time was personal use, for which no tax deduction could be taken. The Service argued that "training and proficiency flights are personal in nature, and the operating costs, investment credit, and depreciation attributable to them are not deductible," citing several prior cases in the Tax Court to support this argument.

Mr. Knutson contended that the instrument training time was an educational expense that improved skills required in his trade or business, and that all expenses allocable thereto should be deductible as business expenses.

The Bonanza was fully equipped for instrument flight, and Mr. Knutson convinced the court that without the instrument rating, it would have been difficult, if not impossible, for him to maintain any kind of schedule in using the plane for business purposes. He demonstrated to the court that it was important for his business to maintain a close association with his suppliers, who were widely scattered throughout the U.S., to attend their conventions, and also to travel in connection with the sales of his products, all of which were aided by the use of the aircraft.

The court held that Mr. Knutson had aptly described the plane as a "business tool." "Obviously," it said, "the plane is 'necessary' in the sense that it is appropriate and helpful to his business. It is also 'ordinary' in the sense that it is a normal and rational response to the specific conditions under which he conducts business." It thus followed, in the opinion of the court, that knowledge of flying was one of the skills required in Mr. Knutson's business, and the instrument rating maintained or improved that skill.

Other business pilots who may wish to rely on this opinion should be aware that Mr. Knutson did not receive as much deductions and credits as he asked for, since he bought the plane near the end of the year, and had a greater than normal ratio of personal to business use in the month of December, even counting the instrument lessons as business flying.

There are many tax and other problems associated with business use of aircraft, which taxpayers should discuss with their tax or other advisor before acting in reliance on the case discussed herein; this synopsis was not intended to render legal, accounting, or other professional service.

W. Edward Howard Jr. is an attorney and CPA engaged in the practice of law in Columbia.

Correction

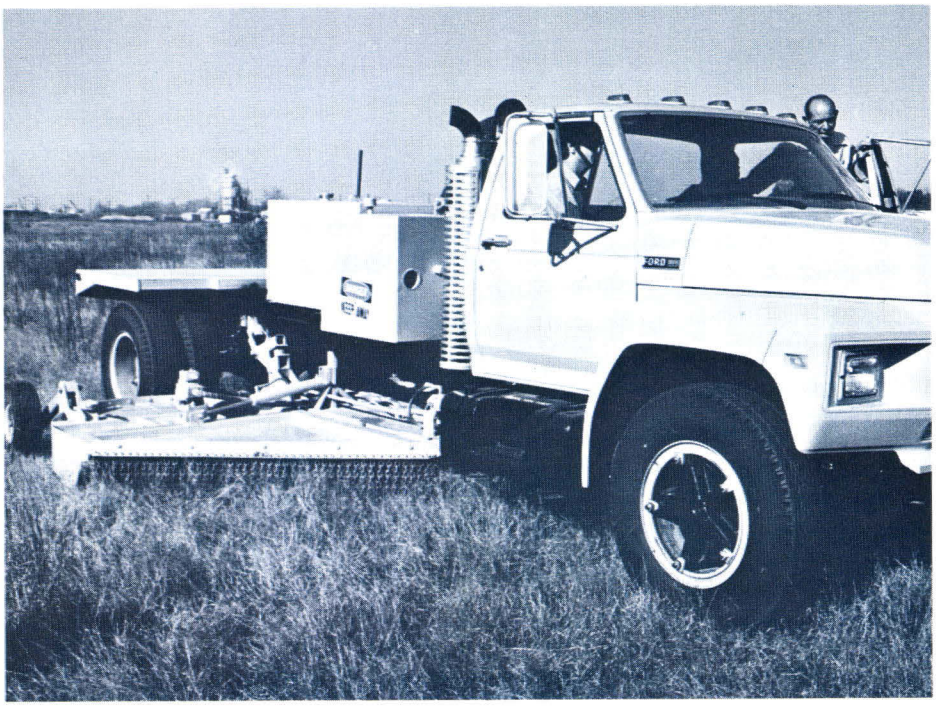
In last month's issue of Palmetto Aviation, we incorrectly reported that the 15 minute "Aviation Weather" program could be seen on public television channels around the state at 7:45 a.m. each morning.

Actually, Aviation Weather appears on ETV channels in the Beaufort, Rock Hill and Sumter areas an hour earlier, at 6:45 a.m.

Funds okayed

Continued from Page 1

The Greenville-Spartanburg security fencing, obstruction clearing at Cheraw and erosion control at Spartanburg Downtown are funded entirely with state and local funds. The state share in these projects represents about 50 percent of the total project cost.



The S.C. Aeronautics Commission recently received this new grass cutter which will be used to cut grass around airports. The new model has three hydraulicly powered blades and a 15 foot cutting swath. It is expected the new mower will reduce by half the time required to cut airports, thereby saving fuel and man hours. The commission will order five more of the mowers, which cost about $35,000 each.

Bankair, Inc. will form new airline

Bankair, Inc., owner of the Columbia-based commuter by the same name, will form a new airline next year which will be called Dixie.

Bankair president Nettie Dickerson said she has options on two 15-passenger Beechcraft C-99 turboprops which will come off the assembly line next June. The aircraft will cost $1.3 million each and Beechcraft has guaranteed that price for two additional airplanes bought within a year.

Mrs. Dickerson said she will probably have to hire about 20 additional employees to start Dixie. She said a group of out-of-state, private investors have agreed to put up the majority of the $4 million needed to get Dixie off the ground and operate the company for a minimum of three years.

The new commuter is expected to serve points in the Southeast within a 400 miles range of Columbia.

FAA asking information on Cessna fuel drain

The FAA has indicated that it will take action to help owners of Cessna 150 and 152 aircraft prevent the accumulation of water in the plane's fuel system.

The FAA has issued an Advanced Notice of Proposed Rulemaking, and is asking pilots to comment on the most appropriate action to correct the problem. According to the FAA, certain 150, A150, 152 and A152 models allow water to collect in the fuel system at the lowest point forward of the fuel selector valve. Accumulation and/or freezing of the water at the location may result in a fuel flow restriction and engine loss of power or stoppage.

The Advanced Notice is issued, the FAA stated, when it is found that the resources of the administration and reasonable outside inquiry do not yield a sufficient basis to identify and select a tentative or alternative course of action.

There have been several accidents or incidents involving loss of engine power or engine stoppage during cold weather operations, the FAA said. Investigation of these incidents revealed that in some cases, water and ice were found at the tee fitting located at the lowest point forward of the selector valve.

Water which froze in the T-drain is believed to have caused the crash of a Cessna 150 at Spartanburg Downtown Airport Feb. 1 in which a student and an instructor were seriously injured.

Since the accident, flight school owner Carolyn Pilaar has had the T-fittings replaced with quick drains on her other 150's and recommends other 150 owners do the same.

"It doesn't make sense to have a low-point drain that can't be drained easily during preflight," she said.

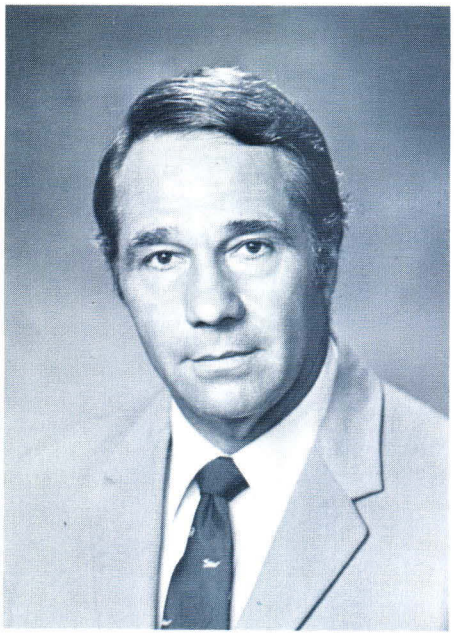
A removable cap is installed on the leg of the tee, which extends through the bottom of the fuselage for drainage purposes. It is accessible for removal at this location, although simple hand tools are required. The Cessna's Operating Handbook indicates that the fitting be drained whenever water is found during drainage of the fuel strainer, and at each 100-hour interval.

However, the FAA believes that more frequent or possibly daily draining of the fitting may be necessary for cold-weather operation to preclude a buildup of water or ice.

Cessna has refused the FAA's request to provide corrective action to resolve the problem, the administration said. As a result of Cessna's refusal to provide a modification to facilitate an easier method of draining the fitting, the FAA indicated it has "no alternatives except to impose a drainage requirement which is burdensome or develop other action which will accomplish the desired objectives."

Cessna pilots, therefore, are being asked to volunteer information on drainage procedures, frequency, anticipation of damage to the system resulting from daily removal of fitting cap, and if any power loss has been experienced as a result of water or ice.

Comments on the proposal can be sent to: FAA, Central Region, Office of the Regional Counsel.



A.F. "FRITZ" WEICKHARDT
Named General Manager

Hawthorne gets contract, Fritz Weickhardt promoted

Hawthorne Aviation of Charleston has been awarded an Air Force contract to service transient aircraft at Charleston AFB and A.F. "Fritz" Weickhardt has been named general manager of the operation.

Services will include fueling, washing, and general ground support maintenance of all aircraft not officially based in Charleston. Weickhardt will supervise a work force of about 20 people beginning Dec. 1.

Vernon B. Strickland, President of Hawthorne, said, "We are impressed with the leadership qualities that Mr. Weickhardt has brought to his efforts here in Charleston, and we are confident that this appointment will provide the strength in management necessary for this very important position."

This is the second contract awarded to Hawthorne in the last 30 days. Work began Oct. 1, 1980 at the U.S. Army Yuma Proving Ground in Yuma, Ariz. There, a work force of 14 people perform all maintenance on the base's fixed wing aircraft and helicopters.

Weickhardt, formerly assistant general manager for Hawthorne's fixed base operation, is originally from Washington, D.C. Prior to joining Hawthorne in March of 1979, Weickhardt was with the U.S. Air Force in Hawaii.

In addition to its operations in Yuma and Charleston, Hawthorne is a distributor for Piper Aircraft and holds government contracts in several states.

'Time-in-type' critical factor in 1979 crash, NTSB says

The National Transportation Safety Board issued an accident report recently which it said "highlights the importance of the 'time-in-type' total in a pilot's logbook."

"Lack of familiarity with aircraft" was a contributing factor assigned by the Board in the crash of a light twin-engine aircraft at a midwestern airport during an instructional flight in April, 1979. The crash on the field killed both pilots.

Eyewitnesses said the plane made an apparently normal approach, but one witness said its left propeller was windmilling. About 1,200 feet past the runway threshold, the aircraft pitched up, banked steeply to the left, rolled and crashed.

Investigation by the Safety Board showed that at impact, the left propeller was almost fully feathered. The landing gear was up, but the landing flaps were at the 40-degree position. For a go-around — with or without a single-engine-out simulation — gear and flaps both should have been up.

The pilot-in-command, although an air-transport-rated pilot with 3,510 total hours in his logbook, had only eight hours in the type of light twin in which he was checking out another pilot. In fact, the pilot-in-command had only minutes more time in type than his "student," a 686-hour pilot.

The Board said the causal factors were the pilot-in-command's "inadequate supervision of flight," and the student's "improper operation of flight controls" and mis-use of flaps. Contributing factors were the pilot-in-command's lack of familiarity with the plane, and the simulated engine failure, the Board held.

"Approach and landing unquestionably represent the most critical regime of flight," the Safety Board said in reporting the accident. "In this case, the additional hazard of a simulated engine failure was introduced by the pilot-in-command. Yet neither he nor the pilot he was checking out in the aircraft had the necessary time in type to be familiar with the plane's single-engine, slow-flight handling characteristics.

"A pilot with more than 3,500 hours obviously is an experienced pilot in the broad sense, but experience in the particular aircraft being flown can be even more important at certain times, as this accident tragically demonstrates," the Board said.

New pilot training down 20%

Aviation industry spokesmen say the number of student pilots this year is down at least 20 percent from the 130,000 of last year, but some flying schools say it's actually worse than that.

Fred Huykman, owner and chief pilot of Certified Air Center at Morristown Airport in New Jersey, says "New students are down 30 percent and more. For one thing, fewer kids are learning to fly because they can't find part-time jobs to help pay for lessons."

The cost of earning a private flying license is now up to $2,000 or so, compared with $1,000 to $1,200 only a few years ago.

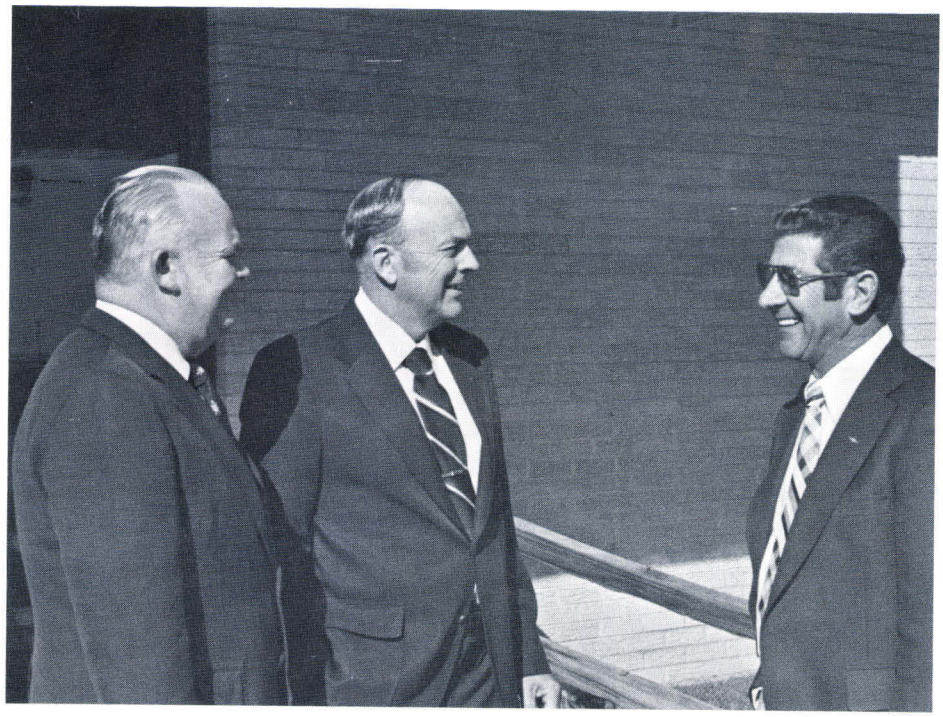
Businessmen are the major customers these days, says Huykman. "They're learning to fly and buying their own airplanes mainly to increase their mobility in their businesses."

— **Wall Street Journal**

Breakfast Club

The S.C. Breakfast Club will meet at the following airports for breakfast:

Dec. 7	**Branham Airport, Darlington**
Dec. 21	**Sumter Airport**
Jan. 4	**Clarendon County**
Jan. 18	**Marion County**
Feb. 1	**Florence City-County**
Feb. 18	**Eagle East, Columbia Metropolitan**



SCAAA President Jack Ross, right, talks with two officers of the national Agricultural Aviation Association. Farrell Higbee, left, executive director and Bob Copeland, center, president. Both men will attend the annual meeting of the S.C. Argricultural Aviation Association Feb. 19-21 in Columbia.

Jack Barry, Ms. Thomas cited by CAP

John F. Barry, retired assistant director of the S.C. Aeronautics Commission, was one of two persons who received national awards from the Civil Air Patrol (CAP) recently.

Barry received the CAP's Brewer Award, awarded annually to only three persons in the nation. In conferring the honor, the CAP cited Barry for his 22 years of public awareness and knowledge of aerospace sciences and for many years of conducting areospace education workshops for teachers at the University of South Carolina.

Also, Maj. Josephine Thomas, a 13-year-veteran of CAP, was honored as National Communicator of the year. She was cited for her support of the communications program in the nation and the South Carolina wing. Maj. Thomas is radio message center officer with the wing.

Ag pilots set annual meet Feb. 19-21 in Columbia

The South Carolina Agricultural Aviation Association (SCAAA) will hold its annual convention Feb. 19, 20, and 21 at the Quality Inn Northeast in Columbia.

The convention, one of the largest annual aviation meetings held in the state, should be even bigger this year. Featured on this year's program will be a complete industry exhibit, an ag pilot refresher course conducted by Dr. Ben Kissam and members of the Clemson University faculty, and the election of officers.

President Jack Ross has invited Bob Copeland, president of the National Argicultural Aviation Association and Farrell Higbee, executive director of the association. They plan to be present for the business session.

Conference registration will begin at 12 noon on the 19th. The refresher course will be conducted on the afternoon of the 19th and the morning of the 20th. Pilots planning to work in South Carolina this coming season should make a special effort to attend these sessions. The banquet will be held on Friday evening following the afternoon business meeting.

For additional information contact president Jack Ross, P.O. Box 32, Darlington, S.C. 29532 or Jack Barry, 924 Brantley St., Columbia, S.C. 29210.

Typical of the refresher training most S.C. aerial applicators participate in yearly is the spray clinic usually held in the spring. In the clinic last year, pilots flew their own planes and sprayed a water-dye mixture over papers laid in a simulated swath to check nozzle orientation and droplet size. From these techniques pilots learn to reduce their drift potential.

FAA asks public input on MLS

The Federal Aviation Administration is asking for the public's ideas on the best way to replace the existing instrument landing system at airports with newer and better equipment called the microwave landing system.

Hearings are set for Los Angeles on Jan. 5, Denver on Jan. 7, Chicago on Jan. 9 and Washington, D.C., on Jan. 13.

In addition, FAA is asking the public to submit written comments on a draft microwave landing system (MLS) transition plan that spells out 10 alternative strategies for introducing this equipment at airports. The agency also has published a companion benefit/cost study that compares the investment needed to implement MLS with that required to continue with the instrument landing system (ILS).

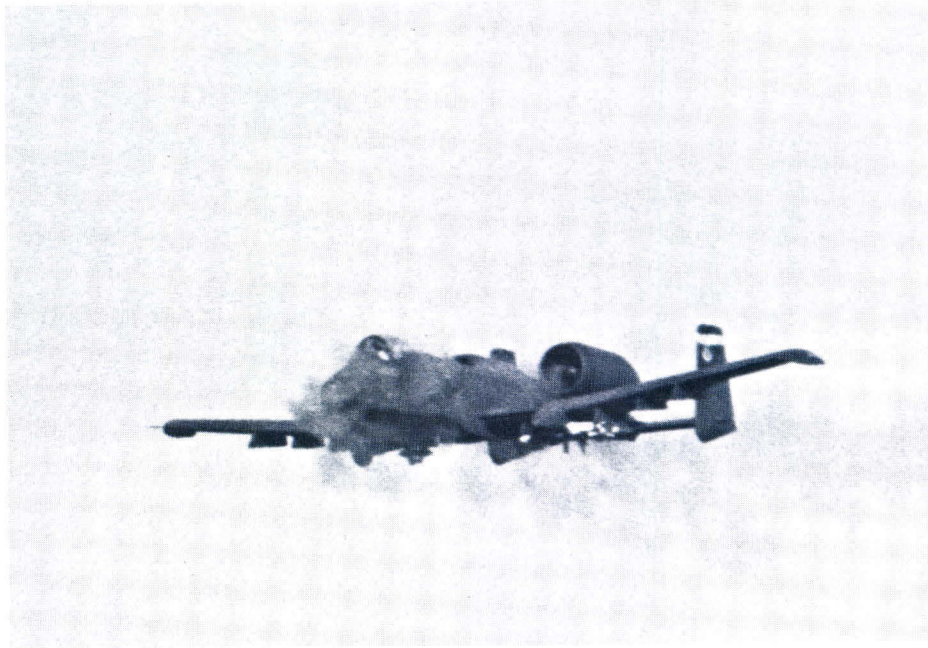
MLS was designed specifically to alleviate some inherent technical problems which limit the ability of ILS to provide clear and reliable signals at all airports where precision guidance service is required. For example, the MLS signal is radiated directly into space rather than reflected off a smooth ground plane, as is the case with ILS. As a result, the signal is less vulnerable to environmental effects such as snow on runways or changing tides. It also is less sensitive to interference from nearby buildings and terrain.

Another MLS advantage is that it operates in the relatively uncongested microwave frequency spectrum and should have no problem meeting the expected growth in demand for precision guidance service at airports.

Copies of the MLS Transition Plan and the Benefit/Cost Study are available from Mr. Marvin Olson, APO-320, Chairman of the MLS Transition Plan Working Group, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591.

Comments on the transition plan should be submitted to the same office by Feb. 13, 1981.

Persons wishing to make a presentation at any of the four public hearings should submit written notification to Mr. Olson indicating the location at which participation is desired.



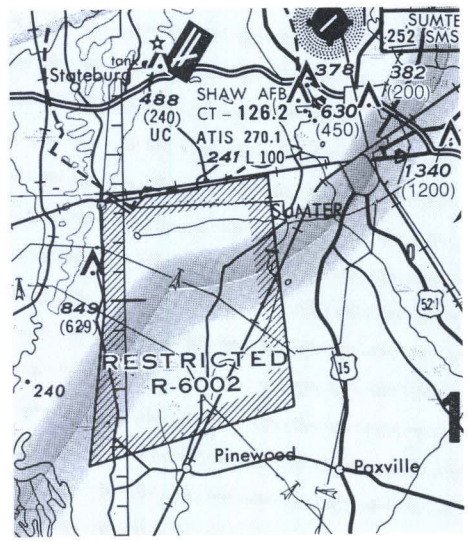
A-10 firing at ground target in R-6002 at 2,400 rounds per minute.

R-6002 not healthy area for civilian aircraft

BY
2ND LT. EDDIE S. CONDREY

SHAW AFB, S.C. — "Restricted Area" as defined in Part 1 of the Federal Aviation Regulations is that airspace within which the flight of aircraft, while not wholly prohibited, is subject to restriction. An example is restricted area R-6002 which is located five miles south of Shaw Air Force Base, South Carolina. This area is an air to ground gunnery range that extends from the surface to and including 13,000 feet MSL. We at Shaw AFB Approach Control see numerous aircraft violate R-6002.

Flight operations within R-6002 include military aircraft such as the A-7, A-10, O-2, F-105, and F-4. Some of these aircraft climb and dive at speeds up to 500 kts. Practice bombs and live ammunition from the guns of the fighters and the attack airplanes could present big problems to the unannounced VFR pilot. Even though this could result in a major catastrophe, the more serious problem lies with the possibility of a mid-air collision. Diving at approximately 30° pitch down attitude, the pilot is concentrating on hitting the target and has very little time to look for other aircraft.



Because of the Air Force's "Heads Up" policy some mid-air accidents have been averted, but forward visibility is very limited in these unusual attitudes and a slow moving VFR aircraft could mean disaster. Although the majority of the South Carolina flying public is aware and respectful of R-6002 and its hazards, a few pilots continue to fly through this restricted area without permission.

Much has been written concerning restricted areas and their dangers, but unauthorized flight through these areas continue. Each of us connected with the South Carolina flying public must verbally put the word out whether in ground schools, seminars, or just while "hanger flying".

When in the vicinity of R-6002, please call Shaw Approach Control on the published frequencies for status of the restricted area. This precaution could save your life!

Misconceptions persist on engine-out performance

The following FAA staff study highlights a widespread misconception within the aviation community concerning single engine performance of twin-engine aircraft. The study was furnished by the Columbia General Aviation District Office for publication in **Palmetto Aviation.** *Part one was presented in last month's* **Palmetto Aviation.** *The conclusion is offered below.*

BY LESTER H. BERVEN
Aerospace Engineer/Pilot

What caused the accident we read about last month, and will continue to cause accidents in the future, is the ignorance of pilots concerning significant differences between the performance and flight characteristics attributed to the light twin by well-meaning but misguided instructors and the actual capabilities of the aircraft. The truth of the matter is that no normally-aspirated light twin aircraft flying today could have successfully continued the takeoff described in the scenario last month, using currently accepted piloting techniques; the problem is that this information is not presently being adequately emphasized to the flying public.

The manufacturers are testing the aircraft according to the regulations but are using non-conservative methods which are not representative of the way pilots are being taught to fly multi-engine aircraft. None of the Beech AFM's even mention banking into the good engine, and the Cessna AFM's specify the 5° bank into the good engine as a recommended trim configuaration after the emergency is over and the dead engine has been feathered.

The new concept of VSSE (safe single engine speed) is a step in the right direction, but is still based on the 5° banked VMC and does not always provide a safe controllability margin for wings level flight (constant heading with the ball centered).

OPTIONS

1. Initiate a rule change to redefine the flight conditions for VMCA as constant heading flight with the ball centered, and to require that single-engine climb performance be presented for the same conditions.

2. Update the current FAA training literature and instructional techniques to insure that all multi-engine pilots are aware of the real engine-out performance and controllability limits of their aircraft, and are able to fly them the way they were certificated. Emphasis should be placed on teaching pilots:

   a. The importance of banking at least 5° into the good engine immediately after an engine failure. An inflight demonstration of the large effect of bank angle on VMC would be most effective.

   b. The correct technique for flying at zero sideslip in order to maximize engine-out performance and insure optimum stall characteristics.

   c. That engine-out flight with the ball centered is **never** a correct configuration and, in fact, will degrade performance and result in unsafe stall characteristics.

ANALYSIS OF OPTIONS

1. A regulatory change of this nature would be appropriate because of the inference made in FAR 23.149 that VMC is determined for the most critical case to insure that the operator can never fly in a condition where VMC could be greater than the value marked on the airspeed indicator (or given in the AFM). However, the adverse effects of not using the 5° bank into the good engine can completely overshadow the critical configuration items specified in this regulation. Implementation of this option would require no change in current training methods or literature in order to greatly improve the safety record of future multi-engine designs. The major disadvantage to this approach is the inability to affect the large number of light mult-engine aircraft presently flying and being produced under the current regulations; they could only be handled by the issuance of a large number of Airworthiness Directives requiring a change in VMC markings and single-engine climb performance. The undesirable financial and political implications of this option are staggering.

2. The second option would be far less costly and would meet with less resistance from industry. It has the advantage of significantly reducing the mult-engine accident rate for older aircraft as well as future designs. It could be implemented at relatively low cost by publishing an advisory circular, modifying the FAA Academy training curriculum and presenting the updated information at Flight Instructor revalidation clinics.

Some of this information has already been transmitted to the manufacturers and as a result they have begun to present more realistic techniques in the newer flight manuals. This information will allow the pilot to fly at zero sideslip, but still leaves the VMC problem.

Option 2 should meet with no objections from industry; the biggest problem will be to eliminate the deeply entrenched misconceptions which are presently accepted as correct.

RECOMMENDATIONS

Option 2 is highly recommended because of its great potential for saving lives and property without a major negative financial or political impact on the industry or the user.

These proposed changes should be implemented as rapidly as possible because of the large potential for an immediate reduction in the multi-engine accident rate.

FAA forcasts predict moderate growth rate

The FAA's annual forecasts of aviation activity, recently released, predict that airline passenger traffic will rebound from its poor showing in 1980, and grow at a relatively stable, moderate rate into the 1990's.

The FAA projected a similar growth trend for private and business flying and other elements of the general aviation fleet.

An even faster growth rate is forecast for the commuter airlines, which recorded a 14 percent gain in passenger traffic in fiscal year 1980 despite the adverse economic climate. FAA attributed this to airline deregulation, which has opened new markets for these smaller carriers, and to the high cost of automobile fuel.

The FAA also noted that general aviation is becoming a more important means of transportation, especially for business travel. It cited the changing air carrier route structure along with the cost advantage of general aviation relative to the automobile for certain travel distances and geographic areas.

A limited number of free copies of the report are available from FAA's office of Aviation Policy, AVP-120, 800 Independence Ave. S.W., Washington, D.C. 20591.

SOUTH CAROLINA
AERONAUTICS COMMISSION
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Seasons Greetings

from the
South Carolina
Aeronautics Commission